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GILES S. PORTER, M.D., Director

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GUY P. JONES
EDITOR

*Practical Methods of Combating Childhood Tuberculosis**

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The subject I am about to discuss is familiar to all members of this association. However, I do not believe that it can be over-emphasized. The importance of combating tuberculosis by practical methods, particularly in childhood, has long been recognized by members of this organization. Public health talks and advertising via the radio, press and bill-boards, have been factors in warning the public about this insidious disease, and free chest clinics have made medical aid available to many who otherwise could do nothing. Despite the great amount of good that has been accomplished by these measures, it is my personal opinion that more aggressive steps are necessary to control this disease during childhood and adolescence. The general mortality rate of pulmonary tuberculosis has shown a satisfactory curve downward. The mortality rate of the adolescent age, however, which in my opinion is the most important in the life cycle from the tuberculosis standpoint, has not shown a satisfactory decrease. This is particularly true of girls between the ages of 15 and 25. If the battle is to be won with our present methods, we must concentrate our efforts on children and adolescents.

In our opinion group testing of school children by the intracutaneous tuberculin test with roentgen examination of all those showing positive reactions, followed by diligent search for the source of infection

in the family, is the ideal way of isolating our active cases.

Scattered reports of school surveys throughout the country indicate the success of this method in isolating cases of manifest and latent tuberculosis. The patients in this particular age group are ideally situated in schools so that large groups can be examined with relative ease. The most difficult part of the program in our experience has been to obtain the consent of the parents for this procedure. In our first survey which covered 7000 students, only 20 per cent of the parents gave their consent for the test. The following year, in an entirely different group of students, in the same city, this percentage had increased to 35 per cent. We believe that if this subject were given sufficient publicity, of the correct type, by the local health officer and school physician, a far larger percentage of the parents would cooperate. This has been true in other localities, particularly in smaller communities in which the health officer is usually well known. At Oceanside, a community of 5000, 75 per cent of the parents of the high school students gave their permission for the test. Our routine is to send printed cards to the parents one or two weeks before the date of the testing, advising them of the nature of the test and requesting their approval. In addition to the card for the parents' signatures, we lately have sent also the small pamphlet put out by the National Tuberculosis Association, explaining the tuberculin

* Read at Fourth Annual Meeting of the Western Branch of the American Public Health Association, Pasadena, May 31, 1933.

test; this we have found exceedingly valuable as it saves many telephone calls from anxious parents whose children have been reported as positive reactors.

The test is carried out in the following manner: The students are lined up by the school or visiting nurse and the left arm is bathed in alcohol and dried. The students then file down to the physician who gives the intracutaneous test. Tuberculin syringes and platinum needles are used. Platinum needles are of particular advantage because they can be flamed and cooled in sterile water very rapidly between tests. In this way we have been able to give 300 Mantoux tests in two and one-half hours time. We have used freshly prepared solutions of .1 of 1 cc. of 1:1000, or .1 mg., of old tuberculin. In cases of questionable reaction, we repeat the test using .1 cc. of 1:100, or 1 mg., of old tuberculin. The reaction is read in 48 hours. We have not found it necessary to repeat the reading in 72 hours, although we have advised all students with negative reactions at 48 hours to show any change in the site of inoculation at 72 hours, to the nurse. A physical examination of the chests of all students presenting positive reactions is made at the school during the following week.

A large number of men engaged in this type of work have found that the physical examination must be augmented by a roentgen examination if all active cases are to be discovered. This has been our experience also. The far-advanced case of pulmonary tuberculosis is usually evident upon physical examination but in the moderately advanced and minimal tuberculous infections this evidence sometimes is lacking.

In our experience X-ray examination with stereoscopic films, of all positive reactors, has proved to be the best method of following up these cases. Manifest disease of any clinical importance is readily detected by this means. It is also possible in this way to isolate a greater number of cases with suspicious minute lesions which may be classified as observation cases.

In our last year's survey which covered 1581 students, there were five active cases and two of questionably active disease; forty-five were classified as observation cases. These latter we felt were cases which might become active if they were not kept under surveillance during the years of adolescence.

The question of the expense of X-ray examination of all cases with positive reactions may make such examination prohibitive in some communities. Where there is a local sanatorium this is usually not a problem but in others it may well be. It has been our experience, however, that the roentgenologists of the community are willing to take care of this work at

cost and we believe that similar arrangements could be made in other places.

But even if the X-ray examination is not possible because of lack of funds, we consider the survey still of value. In such communities all positive reaction cases, with family histories of tuberculosis, should be considered as observation cases. We believe also, that all individuals with questionable symptoms, referable to the chest, should be included in this group. Sputum analyses and temperature charts will frequently add information of value.

The follow-up work in the homes of all positive reactors is exceedingly important. For this purpose we have utilized the services of a combined nurse and social service worker. A careful chest history of each member of the family is obtained together with information regarding any other contacts. In this way we have been able to determine definitely the source of infection in a large percentage of cases and not infrequently we have found other members of the family suffering from active tuberculosis masked under the terms of "chronic bronchitis" or "asthma."

A comparison of the films of four private patients who presented symptoms of activity with those of ten active cases isolated by the school survey in San Diego, impresses us with the value of early diagnosis as it pertains to treatment and prognosis. The four patients who consulted physicians because of chest symptoms presented evidence of advanced disease with extremely doubtful prognosis. The ten cases of active disease discovered by the school survey, have a good prognosis, and, with one exception, had unilateral disease. Only one case could be classified as advanced disease and this fortunately was unilateral; the patient is doing very well with pneumothorax. Two cases in this group were classified as cases of moderately advanced disease and the remainder as cases of minimal disease.

We believe that by this means of discovering cases of active and latent tuberculosis among adolescents, we have a potent method of combating the disease. The San Diego Tuberculosis Association has become so convinced of the efficacy of the school survey campaign during the past two years, that it now has a definite place on its budget. Treatment of cases thus brought to light should cut down the mortality rate in this age group very effectively and influence the incidence of disease in later life. Follow-up work has already been started to serve as a basis for comparison among the observed and unobserved cases, and it is our opinion that the results thus obtained will convince us that our efforts in this direction have been worth while.

SEASONAL FOOD POISONING

Cases of food poisoning incurred through the consumption of contaminated cream custard products, such as cream pies, cream puffs, and other products filled with cream custard, are occurring in large numbers each year, particularly during the summer season. Cream custard is an ideal medium for the growth of bacteria and rapid multiplication occurs if these products are not kept under proper refrigeration. Even warmth and moisture provide suitable conditions for bacterial growth and if these products are infected they become, within a short time, potential sources of extremely acute illnesses. Various types of organisms are responsible for these cases of food poisoning. Most of those that have occurred in California are due to paratyphoid, staphylococcus, and streptococcus organisms. The foods in themselves, because of their composition and ingredients, are not responsible. The illness produced by the consumption of such infected foods is generally due to toxins which may be developed through the growth of the organisms.

An increasing number of these cases is due to the use of custard-filled bakery products, such as cream-filled pies and pastry which have been allowed to stand for definite periods of time before eating. Cases of food poisoning from this source are never due to the decomposition of the product. They are not due to the metallic compounds in the utensils which may be used in their manufacture. They are due, rather, to contamination by the ordinary pus germ, staphylococcus, or to the other organisms already referred to. They become contaminated in various ways. Sometimes this occurs through handling the products, either in the process of manufacture or after the finished product is ready for human consumption. In paratyphoid, carriers are often responsible for the contamination.

Most cases of food poisoning are acute and occur from four to eight hours after eating the infecting product. The ordinary symptoms of gastro-intestinal irritation occur, with nausea, vomiting, cramps and diarrhoea. During the present season, several acute outbreaks of this sort have occurred and several fatal cases have been recorded. In one group of cases which occurred last month, 13 individuals were made ill through the consumption of contaminated cream custard pies. Several other outbreaks, involving smaller numbers of cases, have occurred.

It is unfortunate that wholesome food products should be allowed to become contaminated. If they are kept under proper temperatures there is little possibility of contracting food poisoning through their consumption. Certainly, during warm weather all

cream custard products should be kept under refrigeration and they should not be allowed to stand for any length of time under conditions conducive to warmth and moisture. Unless proper safeguards are used in the manufacture and storage of such products there may be great danger in their use.

Fortunately, the idea that cases of this sort are due to "ptomaines" is not acceptable now either to the general public or to the medical profession. The term "ptomaines" is almost obsolete and cases which might be due to ptomaines are probably the most rare of all cases of food poisoning. The term is derived from the Italian word "ptoma," which means a corpse. It is agreed generally that the term "ptomaine poisoning" is a misnomer and should never be used.

Manufacturers of custard filled bakery products must use high standards of sanitation in the production of such products and, unless refrigerated, such products should be consumed within a very short time after they are manufactured. The same applies to the housewife who manufactures such products in the home. It is not safe to permit any cream-filled product, unless refrigerated, to stand for any length of time before it is eaten. Careful observation of these simple procedures may prevent many cases of acute illness, with possibly fatal results.

ONE PUPPY SENDS SIXTY-TWO MEN TO HOSPITAL

A dog, three months old, was recently adopted as a camp pet in one of the Civilian Conservation Corps camps located in Los Angeles County. This dog became restless and roamed about the camp, snapping at many individuals. It appears that he visited about a great deal, calling upon nearly everyone in the camp, and by the time his condition became recognized as serious he had visited 62 Civilian Conservation Corps men, 4 U. S. forest rangers, 6 civilians, and had either bitten, licked, or otherwise exposed a total of 72 human beings.

Upon the death of the dog, the head was sent to the Los Angeles County Health Department laboratory, where a positive examination for rabies was made. All individuals who had been exposed were placed under treatment. The Civilian Conservation Corps camp men were placed in a government hospital and the civilians were treated privately. Further investigation revealed the fact that the dog came from a litter in which the mother dog and the whole litter of pups had rabies.

This is an unusual occurrence, but it emphasizes the importance of exercising proper safeguards in the prevention of this disastrous and highly fatal disease.

It is believed that the Pasteur treatment was started sufficiently early in individuals who had been exposed to the infection to insure the prevention of the development of rabies in any of them.

MANY INFANTS DIE DURING FIRST MONTH OF LIFE

There were 4125 infant deaths in California in 1932. Of these, 2343 occurred during the first month of life. There were 1159 deaths of infants less than one day old, 832 from one to ten days old, and 352 from 11 days to one month. While most of these early deaths are classified as due to diseases peculiar to early infancy, it is probable that many of them were due to conditions that might be classed as preventable. There were 2153 stillbirths in California last year.

The following table classifies infant deaths under one month in California, last year, by age groups and by causes:

Infant Deaths Under One Month From All Causes, 1932

	Under 1 day	1 to 10 days	11 days to 1 month	Totals under 1 month
All causes.....	1159	832	352	2343
Whooping cough.....	---	---	7	7
Influenza.....	---	4	1	5
Tuberculosis, lungs.....	---	2	---	2
Venereal diseases.....	11	8	8	27
Other general epidemic diseases.....	---	2	6	8
Other general diseases.....	7	6	5	18
Diseases of the nervous system.....	---	3	4	7
Pneumonia, all forms.....	6	37	66	109
Other diseases of the respiratory system.....	1	2	6	9
Diarrhoea and enteritis.....	---	17	54	71
Other diseases of the digestive system.....	---	3	5	8
Nephritis.....	1	---	2	3
Other nonvenereal genitourinary diseases.....	---	1	1	2
Diseases of skin and cellular tissues.....	---	3	2	5
Congenital malformations.....	117	136	47	300
Diseases peculiar to early infancy.....	1002	598	132	1732
Other external causes.....	9	9	6	24
Ill-defined and unknown.....	5	1	---	6

MORBIDITY *

Diphtheria

37 cases of diphtheria have been reported, as follows: Eureka 1, Los Angeles County 3, Glendale 1, Huntington Park 1, Long Beach 2, Los Angeles 13, Monrovia 2, Pasadena 1, Monterey County 1, Ontario 1, San Bernardino 2, San Francisco 1, San Luis Obispo 2, Santa Barbara County 5, Santa Cruz County 1.

Chickenpox

124 cases of chickenpox have been reported. Those

* From reports received on July 31st and August 1st for week ending July 29th.

communities reporting 10 or more cases are as follows: Los Angeles County 10, Los Angeles 19, San Francisco 10.

Measles

169 cases of measles have been reported. Those communities reporting 10 or more cases are as follows: Lake County 12, Los Angeles County 16, Long Beach 11, Los Angeles 32, San Diego 38.

Scarlet Fever

61 cases of scarlet fever have been reported. Those communities reporting 10 or more cases are as follows: Los Angeles 19.

Whooping Cough

258 cases of whooping cough have been reported. Those communities reporting 10 or more cases are as follows: Oakland 16, Los Angeles County 19, Los Angeles 88, Riverside County 10, Sacramento 10, San Francisco 17.

Smallpox

5 cases of smallpox have been reported, as follows: Kern County 2, Los Angeles 1, Porterville 2.

Typhoid Fever

9 cases of typhoid fever have been reported, as follows: Fresno County 1, Calipatria 1, Kings County 1, Compton 1, Los Angeles 5.

Meningitis (Epidemic)

One case of epidemic meningitis from Los Angeles has been reported.

Poliomyelitis

4 cases of poliomyelitis have been reported, as follows: Kern County 1, Los Angeles County 1, Fullerton 1, San Diego 1.

Food Poisoning

9 cases of food poisoning have been reported, as follows: Oakland 7, Huntington Park 2.

Modern life is concerned chiefly with immediate results; thinking is subordinated to doing.—Everett Dean Martin.